

**TRANSLATION**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>PCT-0410</b>	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. <b>PCT/JP2004/014661</b>	International filing date (day/month/year) <b>14.09.2004</b>	Priority date (day/month/year) <b>16.09.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>C07H19/044, A61K31/7056, A61P35/00</b>		
Applicant <b>BANYU PHARMACEUTICAL CO., LTD.</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>5</u> sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input checked="" type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2004/014661

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following \_\_\_\_\_, which is the language of a translation furnished for the purposes of:

- ☐ international search (Rule 12.3 and 23.1(b))  
☐ publication of the international application (Rule 12.4)  
☐ international preliminary examination (Rule 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

☒ the international application as originally filed/furnished

☐ the description:

pages \_\_\_\_\_ as originally filed/furnished

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the claims:

nos. \_\_\_\_\_ as originally filed/furnished

nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19

nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ the drawings:

sheets \_\_\_\_\_ as originally filed/furnished

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_

☐ the claims, nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages \_\_\_\_\_

☐ the claims, nos. \_\_\_\_\_

☐ the drawings, sheets/figs \_\_\_\_\_

☐ the sequence listing (*specify*): \_\_\_\_\_

☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	4	YES
	Claims	1-3, 5-8	NO
Inventive step (IS)	Claims	4	YES
	Claims	1-3, 5-8	NO
Industrial applicability (IA)	Claims	1-8	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
Document 1: WO 2002/036601 A2 (Merck & Co., Inc.), 10 May 2002, entire text			
Document 2: JP 10-245390 A (Banyu Pharmaceutical Co., Ltd.), 14 September 1998, entire text			
Document 3: JP 6-296494 A (Banyu Pharmaceutical Co., Ltd.), 25 October 1994, entire text			
Document 4: JP 6-128283 A (Banyu Pharmaceutical Co., Ltd.), 10 May 1994, entire text			
Document 5: WO 1996/004293 A1 (Banyu Pharmaceutical Co., Ltd.), 15 February 1996, claims			
Document 6: WO 1991/018003 A (Banyu Pharmaceutical Co., Ltd.), 28 November 1991, claims			
Document 7: JP 63-198695 A (Bristol-Myers Co.), 17 August 1988, claims			
(1) Document 1 is understood to disclose a compound wherein A in the general formula [1] set forth in claim of this application is CH <sub>2</sub> , R <sub>1</sub> is a single bond or a lower alkyl group, and R <sub>2</sub> is a phenyl group or a naphthyl group. Document 1 also indicates that said compound is used as an anti-cancer agent. Therefore the invention set forth in claims 1, 7 and 8 lacks novelty and does not involve an inventive step in the light of the invention			

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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set forth in document 1.

(2) Document 2 is understood to disclose a compound wherein A in the general formula [1] set forth in claim 1 of this application is NH, R<sub>1</sub> is a lower alkyl group, and R<sub>2</sub> is a phenyl group, naphthyl group, pyridyl group, furyl group or thienyl group. Document 1 also indicates that said compound is used as an anti-cancer agent.

Therefore the invention set forth in claims 1 to 3 and 5 to 8 lacks novelty and does not involve an inventive step in the light of the invention set forth in document 2.

(3) Document 3 is understood to disclose a compound wherein A in the general formula [1] set forth in claim 1 of this application is O or CH<sub>2</sub>, R<sub>1</sub> is a lower alkyl group, and R<sup>2</sup> is a phenyl group or naphthyl group.

Document 3 also indicates that said compound is used as an anti-cancer agent. Therefore the invention set forth in claims 1, 7 and 8 lacks novelty and does not involve an inventive step in the light of the invention set forth in document 3.

(4) Document 4 is understood to disclose a compound wherein A in the general formula [1] set forth in claim 1 of this application is NH, R<sub>1</sub> is a single bond or lower alkyl, R<sub>2</sub> is phenyl or naphthyl, and a compound wherein A is NH, R<sub>1</sub> is a single bond, and R<sub>2</sub> is a furyl group, thienyl group, pyridyl group or other heterocyclic group.

Document 4 also indicates that said compound is used as an anti-cancer agent. Therefore the invention set forth in claims 1, 7 and 8 lacks novelty and does not involve an inventive step in the light of the invention set forth in document 4.

(5) The invention set forth in claim 4 is not disclosed in documents 1 to 7, and it would not be easy for a

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Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

person skilled in the art to conceive of said invention.  
Therefore the invention set forth in claim 4 is novel and  
involves an inventive step.

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## Box No. VI Certain documents cited

## 1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
US 6703373 B1	09.03.2004	10.09.1999	
[EX]			

## 2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)
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